

*REMARKS/ARGUMENTS**The Pending Claims*

Claims 1-21 currently are pending. Claims 1-17 are directed toward a polishing pad comprising a porous polymeric material, wherein the porous polymeric material has a negative Poisson's ratio. Claims 18-21 are directed toward a method of polishing with the aforementioned polishing pad. Reconsideration of the claims is respectfully requested.

Summary of the Decision on Appeal

The Decision on Appeal affirmed the grounds of rejection set forth in the Office Action dated January 3, 2008, which are as follows:

- (a) Claims 1-7 and 16-20 stand rejected under 35 U.S.C. § 103(a) as allegedly obvious over Reinhardt (i.e., U.S. Patent 6,095,902) in combination with Lakes (i.e., U.S. Patent 4,668,557) and Furukawa et al. (i.e., WO 03/058698 A1 (U.S. Patent Publication 2005/0107007 A1 as English language equivalent));
- (b) Claims 8 and 10 stand rejected under 35 U.S.C. § 103(a) as allegedly obvious over Reinhardt in combination with Lakes and Furukawa et al. in further combination with Sevilla et al. (i.e., U.S. Patent 6,126,532);
- (c) Claim 9 stands rejected under 35 U.S.C. § 103(a) as allegedly obvious over Reinhardt in combination with Lakes and Furukawa et al. in further combination with Suzuki et al. (i.e., U.S. Patent 6,120,353);
- (d) Claims 11-13 stand rejected under 35 U.S.C. § 103(a) as allegedly obvious over Reinhardt in combination with Lakes and Furukawa et al. in further combination with Osterheld et al. (i.e., U.S. Patent 6,241,596); and
- (e) Claims 14, 15, and 21 stand rejected under 35 U.S.C. § 103(a) as allegedly obvious over Reinhardt in combination with Lakes and Furukawa et al. in further combination with Tang (i.e., U.S. Patent 5,949,927).

Discussion of the Obviousness Rejections

The Office Action rejects all of the pending claims as allegedly obvious over Reinhardt in combination with Lakes and Furukawa et al. alone or in further combination with Sevilla et al., Suzuki et al., Osterheld et al., or Tang. All of the pending claims require, *inter alia*, a chemical-mechanical polishing pad comprising a porous polymeric material, wherein the porous polymeric material has a Poisson's ratio less than 0, i.e., a negative Poisson's ratio.

Reinhardt generally discloses porous polishing pads comprising polyether and/or polyester polyurethanes (see, e.g., col. 1, lines 9-49). All known porous polymeric materials have a positive Poisson's ratio unless they are specially treated so as to convert them into a material having a negative Poisson's ratio. See "Declaration Under 37 C.F.R. § 1.132 of Abaneshwar Prasad," dated June 1, 2005, ¶ 3. Reinhardt discloses porous polymeric materials having only a positive Poisson's ratio, and fails to disclose or suggest a polishing pad comprising a porous polymeric material with a negative Poisson's ratio.

Lakes discloses the preparation of negative Poisson's ratio materials by subjecting a conventional polymeric foam to triaxial compression in a mold, combined with heating the polymeric foam to a temperature slightly above the softening temperature of the polymeric foam (see, e.g., col. 1, lines 51-61). Lakes discloses that the negative Poisson's ratio material "would be more advantageous than conventional foam materials in applications where superior strength and abrasion resistance are desired along with a compliant foam" (col. 4, line 68 – col. 5, line 3) and discloses the use of a negative Poisson's ratio material, but not in chemical-mechanical polishing applications (col. 4, line 47 – col. 6, line 2).

The Office Action and Decision on Appeal reasoned that "it is well known in the art that superior strength and abrasion resistance are desired properties for polishing pads" (Decision on Appeal, p. 5, ¶ 7) and that "there was a need to develop a polishing pad with longer pad life by having improved tear and abrasion resistance properties" (Decision on Appeal, p. 6). Even if such statements are accurate, Applicants respectfully submit that a person of ordinary skill in the art would not have had a reason to modify the polishing pads disclosed in Reinhardt to arrive at the claimed invention. More specifically, in view of the numerous procedures known in the art to improve pad strength and tear and abrasion

resistance properties, a person of ordinary skill in the art would not consider the use of a negative Poisson's ratio material, especially in view of the unconventional process conditions required to make a negative Poisson's ratio material. These process conditions – high temperature and triaxial compression – are inconsistent with typical processes for making polishing pads known at the time of the invention of the claimed subject matter.

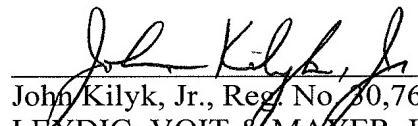
Neither Reinhardt nor Lakes provides a reason for one of ordinary skill in the art to have nevertheless utilized a negative Poisson's ratio material in a chemical-mechanical polishing pad. In addition, none of Furukawa et al., Sevilla et al., Suzuki et al., Osterheld et al., and Tang does so (see Applicants' Appeal Brief, April 29, 2008, pp. 6-9).

Under the circumstances, Applicants respectfully submit that the obviousness rejections are improper and should be withdrawn.

Conclusion

If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,


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